

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) Split protocol transmission method for transmitting data and a communication thread identifier for said data along a communication path from a source functional unit (SFU) to a destination functional unit (DFU), the method comprising:

wherein directly communicating in the communication path between a data consuming functional unit (CFU) and a data producing functional unit (PFU) directly communicate to each other by means of a handshake procedure;

wherein providing a communication thread identifier (TID) from the data consuming functional unit (CFU) indicates a communication thread identifier (TID) to the data producing functional unit; and

the data producing functional unit provides data related to said communication thread identifier from the data producing functional unit to said data consuming functional unit when the data producing functional unit (PFU) accepts the communication thread identifier; and

providing another communication thread identifier from the data consuming functional unit (CFU) to the data producing functional unit (PFU) when the data producing functional unit (PFU) does not accept the communication thread identifier, the another communication thread identifier being provided in response to a request from the data producing functional unit (PFU).

2. (Currently amended) Method according to claim 1, ~~characterized in that the data producing functional unit (PFU) indicates (ACCEPTEP) when it has accepted the communication thread identifier~~further comprising providing a separate signal (TIDVAL) from the data consuming functional unit (CFU) to the data producing functional unit (PFU) to indicate that the communication thread identifier is valid.

3. (Original) Method according to claim 1, wherein the data producing functional unit (PFU) accepts the communication thread identifier within a fixed number of clock cycles.

4. (Original) Method according to claim 1, wherein the data consuming functional unit (CFU) indicates (ACCEPTC) when it has accepted the data from the data producing functional unit (PFU).

5. (Original) Method according to claim 1, wherein the data consuming functional unit (CFU) accepts the data from the data producing functional unit (PFU) within a fixed number of clock cycles.

6. (Currently amended) Method according to claim 2, wherein the data producing functional unit (PFU) provides information indicating whether one of the following situations exist, that the data consuming functional unit (CFU) has to continue indicating the communication thread identifier (TID); ~~the indicated communication thread identifier (TID) is accepted, the second functional unit (CFU) is requested to indicate an other communication thread identifier.~~

7. (Original) Method according to claim 1, characterized by a further handshake procedure wherein information is exchanged from the data producing functioning unit (PFU) to the data consuming functional unit (CFU) to exchange communication thread information, the further handshake procedure being independent of the handshake procedure defined in claim 1.

8. (Original) The method according to claim 2, wherein the data producing functional unit (PFU) provides a thread acceptance signal (ACCEPTP) when it has accepted the indication for the communication thread (TID), and defers providing data until after it has provided the thread acceptance signal.

9. (Currently amended) Processing system comprising a plurality of functional units, the processing system being arranged to transmit data and a communication thread identifier for said data according to a split protocol along a communication path from a source functional unit (SFU) to a destination functional unit (DFU), a data consuming functional unit (CFU) and a data producing functional unit (PFU) in the communication path being arranged to directly communicate to each other by means of a handshake procedure, wherein the data consuming functional unit (CFU) indicates a communication thread identifier (TID) to the data producing functional unit and the data producing functional unit provides data related to said communication thread identifier to said data consuming functional unit, wherein the data consuming functional unit (CFU) provides another communication thread identifier to the data producing functional unit (PFU) when the data producing functional unit (PFU) does not accept the communication thread identifier, and wherein the another communication thread identifier is provided in response to a request from the data producing functional unit (PFU).

10. (Original) Processing system according to claim 9, wherein the data consuming functional unit is an application specific processor (ASP) capable of scheduling tasks based on incoming read data.

11. (Original) Processing system according to claim 9, wherein the data consuming functional unit is a memory controller comprising a scheduler for providing indications of a communication thread identifier in an order which reduces memory access time.

12. (New) Method according to claim 1, wherein the data producing functional unit (PFU) accepts the communication thread identifier within a fixed number of clock cycles without issuing an acceptance signal (ACCEPTP) to indicate an acceptance of the communication thread identifier.

13. (New) Method according to claim 1, wherein the data consuming functional unit (CFU) accepts the data from the data producing functional unit (PFU) within a fixed number of clock cycles without issuing an acceptance signal (ACCEPTC) to indicate an acceptance of the data.

14. (New) Processing system according to claim 9, wherein the data consuming functional unit (CFU) provides a separate signal (TIDVAL) to the data producing functional unit (PFU) to indicate that the communication thread identifier is valid.

15. (New) Processing system according to claim 9, wherein the data producing functional unit (PFU) accepts the communication thread identifier within a fixed number of clock cycles without issuing an acceptance signal (ACCEPTP) to indicate an acceptance of the communication thread identifier.

16. (New) Processing system according to claim 9, wherein the data consuming functional unit (CFU) accepts the data from the data producing functional unit (PFU) within a fixed number of clock cycles without issuing an acceptance signal (ACCEPTC) to indicate an acceptance of the data.